IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

WORLDS INC.,	§	
	§	
Plaintiff,	§	
	§	
v.	§	CIVIL ACTION 6:20-cv-00872-ADA
	§	
MICROSOFT CORPORATION,	§	
	§	
Defendant.	§	

DEFENDANT MICROSOFT CORPORATION'S RESPONSIVE CLAIM CONSTRUCTION BRIEF

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page(s)

FEDERAL CASES

FEDERAL STATUTES

OTHER AUTHORITIES

I. INTRODUCTION

Plaintiff Worlds, Inc. ("Plaintiff") alleges that Microsoft Corporation ("Microsoft") directly infringed four method claims of U.S. Patent No. 8,082,501 ("the '501 patent"). (Dkt. 38 at 1).[1] The terms in dispute are: "participant condition," "three-dimensional [avatar]," and "customizing . . . an [avatar]."

As explained below, Microsoft proposes constructions for the disputed terms that are consistent with how a person of ordinary skill in the art (a "POSITA") would have interpreted the claim terms in 1995. These constructions are rooted in the intrinsic evidence, including the language of the claims themselves as read in light of the patent specification and admissions made by Plaintiff during the prosecution histories. Thus, Microsoft adheres to the Federal Circuit's view that "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005).

Plaintiff's approach to claim construction, on the other hand, is contrary to law and inconsistent with the intrinsic evidence. In most instances, rather than interpret the claim language based on the specification, Plaintiff seeks to avoid resolution of the parties' disputes and takes the position that no construction is necessary. Although Plaintiff asserts that it is relying on the unspecified "ordinary meaning" of these terms, Plaintiff's position is simply an effort to ignore the plain language of the *entire* claim and the disclosure of the patent, to read the claim in a vacuum, and to preserve the ability to argue claim construction to the jury. Plaintiff further illogically asserts that a jury will understand the plain and ordinary meaning of these

[1] Microsoft denies that it *directly* infringed any of the asserted claims (see Microsoft's Motion to Dismiss, Dkt. 21) and further denies that it made, used, sold, and/or offered for sale many of the accused versions of Minecraft (for example, the Java editions and certain other editions).

terms *in 2022* despite the fact that: 1) the terms relate to complex technology; 2) they should be interpreted in light of what a POSITA would have understood *in 1995*; and 3) the relevant technology has changed drastically in the last 27 years.

II. THE '501 PATENT

The '501 patent has a priority date of November 13, 1995. It is directed to a client-server network system for enabling multiple users to interact with each other in a virtual world. The patent explains that "[a] client-server network is a network where one or more servers are coupled to one or more clients over a communications channel." '501 patent at 1:29-31 (Dkt. 38-1). "The term 'client' generally refers to a client machine, system and/or process, but is also used to refer to the client and the user controlling the client." *Id.* at 3:15-21.

The '501 patent explains that "[t]he present invention provides a highly scalable architecture for a three-dimensional graphical, multi-user, interactive virtual world system." *Id.* at Abstract. Each user is represented visually in the virtual space by a graphical object called an "avatar" and interacts with a client system that "is networked to a virtual world server." *Id.* at 3:14-15. Each user is free to move her avatar around in the virtual world. *Id.* at 3:39-44. The server process keeps track of every avatar's position and movement in the virtual world. *Id.* As an avatar moves in the virtual space, its client device sends the server its updated position information. *Id.* The server maintains a database of position information for each avatar and sends updates on position information of the avatars to the client devices so that they can see and interact with other users' avatars in the virtual world. *Id.*

Asserted Claim 1. Each of the four asserted claims are method claims that depend from claim 1. Claim 1 has a preamble and four distinct elements that relate to different aspects:

Preamble: avatars defined	1. A method for enabling a first user to interact with other users in a virtual space, each user of the first user and the other users being associated with a ***three dimensional*** avatar representing said each user in the virtual space, the method comprising the steps of:
Avatar customization	[a] ***customizing***, using a processor of a client device, an avatar in response to input by the first user;
Server filtering what the client receives	[b] receiving, by the client device, position information associated with fewer than all of the other user avatars in an interaction room of the virtual space, from a server process, wherein the client device does not receive position information of at least some avatars that fail to satisfy a ***participant condition*** imposed on avatars displayable on a client device display of the client device;
Client filtering what the client displays	[c] determining, by the client device, a displayable set of the other user avatars associated with the client device display; and
Displaying filtered avatars	[d] displaying, on the client device display, the displayable set of the other user avatars associated with the client device display.

(color highlighting and commentary added, italicized emphasis added to the disputed terms).

Avatar Customization. The '501 patent teaches that a user may begin a session in the virtual world *either* by selecting a predefined avatar provided from a fixed avatar database of the client device *or* by creating a custom avatar. *Id.* at 6:59-61; 7:11-13.

Server Filtering. The '501 patent states that for "the virtual world [to be] scalable to a large number of clients, the virtual world server must be much more discriminating as to what data is provided to each client[]." *Id.* at 3:51-53. The patent refers to this need for the server to be selective as "crowd control." *Id.* at 13:12-13 (emphasis added). According to the '501 patent, "'crowd control' … is needed in some cases to ensure that neither client 60 nor user A get[s] overwhelmed by the crowds of avatars likely to occur in a popular virtual world." *Id.* at 5:39-41. To allow a user to interact effectively with a large number of other users in a virtual space, the server must limit how much information about the other users it sends to each client. At the time of the effective filing date of the '501 patent in 1995, limiting the amount of data sent by the

server to each client was necessary because of the constraints on network capacity and the processing power of client computers at that time. *Id.* at 1:56-2:34; 5:46-50. Thus, if the server sent data about a large number of avatars to a client, the client might be "overwhelmed" because it might not be able to handle processing such a large amount of data. The '501 patent purports to solve this problem of "crowd control" by providing server filters to limit the number of other user avatars that the server will send to each client. The '501 patent describes two kinds of server filters: (1) a server filter based on a server-set condition; and (2) an additional server filter based on client-set conditions. For example, the server maintains a variable, N, which sets the maximum number of other avatars A will see. *Id.* at 5:42-44. A client also maintains a variable, N', which indicates the maximum number of avatars that client wants to see and/or hear. The client can send the value of N' to the server. *Id.* at 5:44-46. Once the number of avatars to be sent to the client is determined, server determines which N (or N') avatars are closest to A's avatar – these are referred to as A's "neighboring avatars." *Id.* at 5:54-59. The server notifies a client of position and orientation information for *only* those "neighboring" avatars. *Id.* at 14:28-36.

Client Display Filtering. In addition to the server filtering of avatars sent to the client by the server, the '501 patent also discloses that each client may further filter the number of avatars that it displays. In other words, the client may not display every avatar it receives from the server. For example, the client device displays the virtual world from the viewpoint of the avatar of that client/user. *Id.* at 3:30-34. Avatars outside of the client's viewpoint may not be displayed.

III. BACKGROUND ON RELATED MATTERS

Plaintiff has filed another lawsuit based on the '501 patent and its family members against Activision Blizzard, Inc. in the U.S. District Court for the District of Massachusetts (the "Activision case"). In 2015, Judge Casper issued a *Markman* Order in the Activision case and

construed, among other terms, the scope of "participant condition" in the '501 patent. *Worlds, Inc. v. Activision Blizzard, Inc., Memorandum and Order*, No. 1:12-cv-10576-DJC (Dkt. 153) ("Activision Markman Order") (Dkt. 38-2 herein).

Additionally, the '501 patent and several of its related patents were involved in IPR proceedings filed by Bungie, Inc. in 2015 (the "IPR Proceedings"). The PTAB issued a final written decision finding all the '501 patent claims asserted in this case unpatentable. *Bungie, Inc. v. Worlds Inc.*, IPR2015-01319, Paper 42 (PTAB Dec. 6, 2016) (Dkt. 22-2). On appeal, the Federal Circuit found that the PTAB erred in its real-party-in-interest analysis and vacated the final written decision on that basis alone. *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1248 (Fed. Cir. 2018). On remand, the PTAB found that Bungie failed to meet its burden to show that the petition was not time-barred under 35 U.S.C. § 315(b) based on the complaint filed against Activision, a purported real-party-in-interest to Bungie's IPR, and the PTAB terminated the proceedings regarding the '501 patent. *Bungie, Inc. v. Worlds Inc.*, IPR2015-01319, Paper 62 at 45 (PTAB Jan. 14, 2020) (Dkt. 22-1).

IV. THE PROPER CONSTRUCTION OF THE DISPUTED TERMS

A. "PARTICIPANT CONDITION"

The term "participant condition" appears in the second element [b] of asserted claim 1 of the '501 patent, which states in full:

> [b] *receiving, by the client device, position information associated with fewer than all of the other user avatars* in an interaction room of the virtual space, from a server process, *wherein the client device does not receive position information of at least some avatars that fail to satisfy a* ***participant condition*** imposed on avatars displayable on a client device display of the client device;

(Dkt. 38-1) (color highlighting and emphasis added). The parties agree that the Court should instruct the jury that "participant condition" means "a condition set by the client," which is the

same construction reached by Judge Casper in the Activision case. Activision Markman Order at 14-18 (Dkt. 38-2). The parties disagree, however, concerning the proper *scope* of this construction within the context of the rest of the language of claim element [b]. (Dkt. 38 at 4). Importantly, Judge Casper's order specifically found that claim 1 requires that the server process *use* the participant condition "*to determine whether or not avatar position information will be sent [from the server] to the client.*" (Dkt. 38-2 at 17) (emphasis added). However, Plaintiff disputes that this is a requirement of claim 1. In contrast, Microsoft asserts that both Judge Casper's claim construction and the reasoning underlying it are correct and should govern the arguments made by the parties in this case. As such, much like the Court did in *Ancora Techs., Inc. v. LG Elecs. Inc.* last year, Microsoft requests that the Court clarify the scope of this language in the form of a footnote that states:

> This construction is based on the construction and reasons supporting the construction set forth in the Worlds v. Activision Markman Order, No. 12-10576-DJC (Dkt. 153) at pp. 14-18, including that the server uses the participant condition to determine whether or not avatar position information will be sent to the client.

No. 1-20-CV-00034-ADA, 2020 WL 4825716, at *12 (W.D. Tex. Aug. 19, 2020) (Ex. 1). In *Ancora*, the Court rejected defendant's proposed construction but noted that it could not grant the term its plain and ordinary meaning as advocated by plaintiff because "both parties dispute the entirety of the term." *Id.* Instead, the Court provided a claim construction for the jury and attached "a footnote *not for the jury*" that further resolved the claim scope dispute between the parties. *Id.* (emphasis added). The same procedure is appropriate in this case.

Thus, the issue of whether or not claim 1 requires that the participant condition be used to determine which avatar information will be sent to the client is a dispute as to claim scope that must be resolved by the Court. *See, e.g., NobelBiz, Inc. v. Glob. Connect, L.L.C.,* No. 2016-1104, 2016-1105, 701 F. App'x 994, 997 (Fed. Cir. 2017) ("The district court must provide a

construction because 'the parties disputed not the *meaning* of the words themselves, but the *scope* that should be encompassed by th[e] claim language.'") (citing *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008)).

1) Microsoft's Footnote is supported by Case Law and Necessary to Resolve a Disputed Issue of Claim Scope

Contrary to Plaintiff's assertion, Microsoft is not advocating for different constructions for the parties and the jury. Rather, the purpose of Microsoft's footnote is to resolve a dispute between the parties as to claim scope, which dispute should *not* be heard by the jury. *O2 Micro*, 521 F.3d at 1360. Much like a ruling on a motion in *limine*, the footnote will govern what arguments the parties are allowed to make to the jury regarding claim scope. *See, e.g., ContentGuard Holdings, Inc. v. Amazon.com, Inc.*, No. 2:13–CV–1112–JRG, 2015 WL 4944514, at *4 (E.D. Tex. Aug. 19, 2015) (Ex. 2) (entering an order barring parties and their experts from asserting any positions contrary to court's claim constructions or equivalent to a claim construction position the court considered and rejected). Without the footnote, Plaintiff will argue that the claims do not require the server to use the participant condition to decide what avatar information to send—and Microsoft will argue that use of the participant condition is required to decide what avatar position to send. The question of claim scope will be impermissibly left to the jury. Instead, the Court should resolve this claim scope dispute now and require Plaintiff to use the agreed construction of "participant condition" *within the context of the plain meaning of the claim element [b]*. Further, resolving this dispute now will save resources by requiring the parties to focus discovery and expert reports on the correct claim scope.

2) As Judge Casper Found in her Order, the Plain Language of Claim 1 Requires that the Server Use the Participant Condition to Decide What Position Information the Client Receives

"[A] claim construction analysis must begin and remain centered on the claim language

itself, for that is the language the patentee has chosen to particularly point[ ] out and distinctly claim[ ] the subject matter which the patentee regards as his invention." *Source Vagabond Sys. Ltd. v. Hydrapak, Inc.*, 753 F.3d 1291, 1299 (Fed. Cir. 2014) (citations omitted). While certain phrases may be at the center of the claim construction debate, the context of the surrounding words of the *entire* claim also must be considered in determining the meaning of those disputed phrases. *See Kyocera Wireless Corp. v. Int'l Trade Comm'n*, 545 F.3d 1340, 1347 (Fed. Cir. 2008) (citations omitted).

Thus, the term "participant condition" must be read within the context of the *entire* element [b], which is focused on deciding which avatar's position information the server will send to the client. More specifically, the first clause of element [b] (highlighted dark green) requires that the client receive, from a server, "position information *associated with fewer than all* of the other user avatars" (emphasis added). The first clause is modified by a "wherein" clause (highlighted light green) that further requires that ***"at least some," but not necessarily all,*** of the other user avatars for which the client does not receive position information "fail to satisfy a participant condition imposed on avatars displayable on a client device display of the client device." Thus, the "participant condition" is an additional limitation—beyond whatever server-set conditions the server uses to decide which avatars to send (and not send) to the client—that is *also* used by the server to decide which avatars' position information should be sent (or not sent) to the client. In other words, the server uses two conditions, or filters, to decide which avatars' position information should be received by the client.

Further, claim element [b] should be read in conjunction with the preamble, which states:

> 1. A method for enabling a first user to interact with other users in a virtual space, ***each user of*** the first user and ***the other users being associated with a three dimensional avatar representing said each user*** in the virtual space, the method comprising the steps of:

. . .

> receiving, by the client device, position information associated with ***fewer than all of the other user avatars*** in an interaction room of the virtual space, from a server process, wherein the client device does not receive position information ***of at least some avatars*** that fail to satisfy a participant condition imposed on avatars displayable on a client device display of the client device;

(Dkt. 38-1) (emphasis added). The "at least some avatars" refers back to the "fewer than all of the other user avatars" in the first clause of element [b], which refers back to the emphasized definition of avatar in the preamble (shown above). As such, the plain language of claim 1 requires that some, but not necessarily all, of the other user avatars that are not sent to the client are those other user avatars that failed to satisfy the participant condition. According to claim 1, the server process is the thing that sends some, but not all, avatar position information to the client device. Therefore, the server must be the thing that decides which avatar position information will be sent and not be sent because it fails to satisfy the participant condition or for some other reason.

Judge Casper interpreted the plain meaning of element [b] of claim 1 in the same way:

> All of the claims of the Patents-in-Suit require that the client receive position information of "fewer than all" or "less than all" of the other users avatars. Specifically, the claims of the '501 and '998 patents require that the client device receive "position information associated with fewer than all of the other user avatars." While the claims of the '690, '558 and '856 patents require the client to receive positions for "less than all" of the other users. **The claims of the '501 and '998 patents, at issue here, then *further* require that *"at least some"* of the avatars for which the client does not receive position information "fail to satisfy" "a condition" or "a participant condition."** Claim 1 of '501 details, for example, that "the client device" receives "position information" from the "server process" and that "the client device does not receive position information of at least some avatars that fail to satisfy a 'participant condition.'" Claim 1 does not explicitly indicate whether "the server process" or the "client device" imposes the condition, and the specification does suggest that the server has the ability to filter avatars in order to determine the other avatars a user will see. **Nevertheless, read in context, the "at least some" language appears to represent *an additional limitation* – beyond the selection of the N avatars by the server – *to determine whether or not avatar position information will be sent to the client.***

Activision Markman Order at 17 (Dkt. 38-2) (internal citations omitted) (emphasis added). Thus, like Judge Casper, this Court should find that the "participant condition" when read *in context of the plain language of the rest of claim 1* requires that the server use the "participant condition" to "determine whether or not avatar position information will be sent to the client." *Id.*

3) Intrinsic Evidence Supports the Finding that Claim 1 Requires that the Server Use the Participant Condition to Decide What Position Information is Received by the Client

With regard to sending position information for "less than all" of the other users' avatars, the specification first discloses that the server selects up to "N" avatars to send to the client based on proximity. The "N variable" is a condition set by the server. '501 patent at 5:35-54 (Dkt. 38-1). However, the parties agree that the "participant condition" is a "condition ***set by the client***." (emphasis added). The specification discusses how the client *also* sets condition(s) that the client sends to the server for the server to use in selecting the avatars to send to that particular client. *Id.* at 5:42-59. It explains that different clients have different needs, which is why one client may want to set different conditions for how many avatars it receives than another client might set. *Id.* The client sets a value of N', which is less than N, and sends the value of N' to the server:

- "Client 60 also maintains a variable, N', which might be less than N, which indicates the maximum number of avatars client 60 wants to see and/or hear. ***The value of N' can be sent by client 60 to server 61*. One reason for setting N' less than N is where client 60 is executed by a computer with less computing power than an average machine and tracking N avatars would make processing and rendering of the virtual world too slow**. . . . If there are less than N avatars in a room . . . **and client 60 has not limited the view to less than N avatars,** A will see all the avatars in the room. Those avatars are thus "neighboring" which means that client 60 will display them." *Id.* at 5:42-59 (emphasis added).

- "**Generally, the limit set by server 61 of N avatars *and* the limit set by client 60 of N' avatars control how many avatars A sees**. If server 61 sets a very high value for N, then the limit set by client 60 is the only controlling factor." *Id.* at 5:60-6:5 (emphasis added).

- "In a typical situation, the number of avatars in a room is too large to be handled

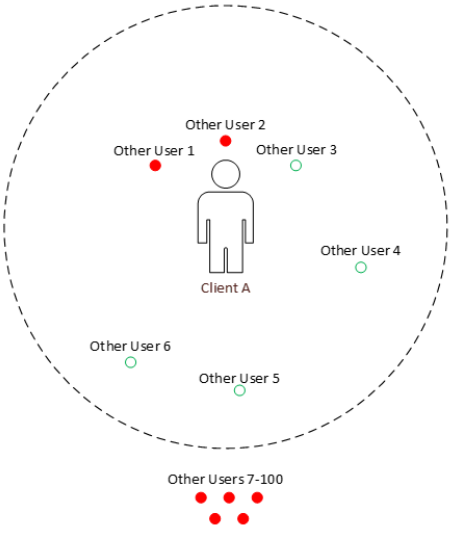
> by client 60 and displayed on display 122. The maximum number of avatars, N, is determined by server 61, **but might also be determined *for* each client.**" *Id.* at 13:12-18 (emphasis added).
>
> Judge Casper relied on this embodiment to support her claim construction:
>
> Indeed, the specification clearly contemplates that the client "'might have a way to filter out avatars on other variables in addition to proximity.'" . . . For example, the Defendants point out that **it is "the client" that "may set a value of N', which is less than N, and send that value to the server" and that it is "the client" that "may send specific user IDs to the server to identify specific avatars that the client wants to block (so that the client does not receive any position information for such avatars) because those avatars are 'unfriendly.'"**

Activision Markman Order at 16-17 (Dkt. 38-2) (internal citations omitted) (emphasis added).

> The "conditions" contemplated in the '501 and '998 patents then **must be distinct from the server conditions described in the specification** and are properly construed to be consistent with the user or client conditions contemplated by the specification, including user ID and "other variables in addition to proximity."

Id. at 18 (emphasis added).

The embodiment of the specification relied on by Judge Casper and claimed in claim 1 can be graphically shown in the following example:



- In this example, if the server-setting N = 4, the server sends to Client A information for four other users (i.e., "less than all") of the total other user avatars in the virtual space.
- The server will send to Client A position information for 4 users total who are closest in proximity to the Client A.
- However, if the Client A wishes to block "Other User 1" and "Other User 2," the Client A can set a "participant condition" blocking these users, which condition is sent to and used by the server.
- The server will not send to Client A position information for Other Users 1 and 2 (even though they are closer in proximity to Client A than Other Users 5 and 6), and Other Users 7-100.

- The server does not send information about Other Users 1 and 2 because they have "failed to satisfy a participant condition" and does not send information about Other Users 7-100 because they are not among the four users who are in closest proximity to the Client.
- Other Users 1 and 2 have "failed to satisfy a participant condition" and constitute "at least some" of the users for which the Client did not receive position information.

As such, the specification supports Microsoft's position that the scope of claim 1 requires that the "participant condition," which is a condition set by the client, be used by the server to determine whether or not avatar position information will be sent to the client.

4) Plaintiff Narrowed the Scope of Claim 1 to Exclude an Alternate Embodiment during Prosecution

Plaintiff may argue that an alternate embodiment in the specification teaches away from Microsoft's proposed construction of the scope of claim 1 with regard to the participant condition. In the alternate embodiment, the client-set variable N' (e.g., a participant condition), is used by the client, not the server, to decide what avatars to display. '501 patent at 6:6-24 (Dkt. 38-1). This is in contrast to the claimed embodiment, discussed above, where the client-set variable N' is sent from the client to the server for the server to use to determine which avatars to send to the client. *Id.* at 5:42-6:5; 13:12-18. This Court should find that the asserted claims cover the claimed embodiment to the exclusion of the alternate embodiment.

The Federal Circuit has repeatedly held that language of the claim controls, and the proper claim construction need not encompass all disclosed embodiments in the specification. *See, e.g., SIMO Holdings Inc. v. Hong Kong uCloudlink Network Tech. Ltd.,* 983 F.3d 1367, 1379 (Fed. Cir. 2021) ("Specifically, and most importantly for this case, we have repeatedly explained that '[a]lthough reluctant to exclude an embodiment, this court must not allow the disclosed embodiment to 'outweigh the language of the claim, especially when the court's construction is supported by the intrinsic evidence.'"); *PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC,* 815 F.3d 747, 755 (Fed. Cir. 2016) (rejecting the proposition that

"each and every claim ought to be interpreted to cover each and every embodiment"); *Baran v. Med. Device Techs., Inc.,* 616 F.3d 1309, 1316 (Fed. Cir. 2010) ("It is not necessary that each claim read on every embodiment."). "If the words of the claims limit the claim to one embodiment to the exclusion of another embodiment, such is how the claims must be construed." *Methode Elecs., Inc. v. DPH-DAS LLC*, No. 09-CV-13078, 2012 WL 1559770, at *9 (E.D. Mich. Apr. 30, 2012). (Ex. 3).

In this case, the plain language of claim 1 makes clear that the participant condition is used by the server to decide what avatars the client receives because this term is part of server filtering element [b], and this term is *not* part of the client filtering element [c] that relates to the client deciding what to display:

Server filtering what the client receives

[b] receiving, by the client device, position information associated with fewer than all of the other user avatars in an interaction room of the virtual space, from a server process, wherein the client device does not receive position information of at least some avatars that fail to satisfy a ***participant condition*** imposed on avatars displayable on a client device display of the client device;

Client filtering what the client displays

[c] determining, by the client device, a displayable set of the other user avatars associated with the client device display; and

(Dkt. 38-1) (color highlighting and commentary added).

In fact, the alternate embodiment was excluded from the scope of claim 1 by amendment during prosecution to attempt to distinguish the cited prior art. As originally drafted, claim 1 was arguably broad enough to cover both the claimed embodiment and the alternate embodiment. The participant condition limitation was not originally part of claim 1 (numbered claim 4 during prosecution). The participant condition limitation was added to element [b]—not element [c]—by examiner's amendment to obtain allowance of the claims over the "closest prior art" patents:

> 4. (Currently Amended) A method for enabling a first user to interact with other users in a virtual space, each user of the first user and the other users being associated with a three dimensional avatar representing said each user in the virtual space, the method comprising the steps of:
>
> customizing, using a processor of a client device, an avatar in response to input by the first user;
>
> receiving, by the client device, position information associated with fewer than all of the other user avatars in an interaction room of the virtual space, from a server process, wherein the client device does not receive position information of at least some avatars that fail to satisfy a participant condition imposed on avatars displayable on a client device display of the client device; ~~of the other user avatars in the virtual space;~~
>
> determining, by the client device, a displayable set of the other user avatars associated with the client device display; and
>
> displaying, on the client device display, the displayable set of the other user avatars associated with the client device display.

'501 patent File History, 11/4/2011 Notice of Allowance at 2-3 (Ex. 4). Indeed, in the Reasons for Allowance, the Examiner noted:

> **The closest prior arts**, Shiio and Suzuki disclose a conventional animate characteristics representing operators in virtual conference; either singularly or in combination, **fail to anticipate or render *the above underline limitation* obvious**.

Id. at 5 (emphasis added).

By adding a participant condition (which is set by the client) to the claim element [b] that relates to server filtering of avatars the server sends to the client, Plaintiff effectively narrowed the scope of claim 1 so that it does not cover the alternate embodiment. As such, claim 1's plain language, as well as the prosecution history, limits claim 1 to the embodiment where the server uses the client-set (i.e., participant) condition to determine what avatar information is received by the client to the exclusion of the alternate embodiment that uses a client-set condition to decide what avatars to display.

B. "THREE-DIMENSIONAL [AVATAR]"

The term "three-dimensional" is used to describe the avatars in the preamble of claim 1:

> 1. A method for enabling a first user to interact with other users in a virtual space, each user of the first user and the other users being associated with a ***three dimensional*** avatar representing said each user in the virtual space, the method comprising the steps of:

(Dkt. 38-1) (emphasis added). The parties agree that "avatar" should mean "a graphical representation of a user." However, the parties dispute the construction for "three-dimensional." Plaintiff essentially asserts that "three-dimensional" needs no construction as Plaintiff's proposed construction "in three-dimensional form" re-uses the disputed term. Microsoft asserts that "three-dimensional" should be construed to mean "appears to have length, width, and depth."

1) The term "Three-Dimensional" Needs Construction

This Court should construe "three-dimensional" because (1) the parties dispute the scope of this term; and (2) a lay jury in 2022 will not understand the scope of this term from the viewpoint of a POSITA in the context of the '501 patent, which dates back to 1995.

More specifically, Plaintiff appears to dispute that "three-dimensional" covers a technology used commonly in early 1990 video games referred to as "quasi-3D" or "2.5D" even though quasi-3D is the same technology described as the preferred (and only) embodiment of the '501 patent for rendering three-dimensional avatars (as will be detailed below).

By way of technological background, in the 1990s quasi-3D was often used as an alternative to "true 3D" for rendering objects in video games. *See* Declaration of Garry Kitchen at ¶¶ 54-62 ("Kitchen Decl.") (Ex. 5). Quasi-3D uses graphical techniques, such as viewing angles, to make one or more 2D images appear to the player to have depth (e.g., three dimensions). *Id.* at ¶¶ 59-62. "True 3D" is a different rendering method that starts with a fully 3D, wireframe computer model of polygons that is ultimately, through a number of complicated

steps, rendered with a 3D renderer onto a two-dimensional surface. *Id.* at ¶¶ 47-53, 57-58. It cannot be disputed that true 3D rendering is not described in the '501 patent.

Further, the term "three-dimensional" will be confusing to a jury sitting in 2022, who will be tasked with applying the meaning of this term to one of ordinary skill in art *as it was understood in 1995* in the context of virtual worlds and video games displayed on a two-dimensional display. *Phillips*, 415 F.3d at 1313 (claim construction aims to determine the "meaning that the term would have to a person of ordinary skill in the art in question *at the time of the invention, i.e., as of the effective filing date of the patent application*." (emphasis added)). This task is made all the more difficult by the fact that three-dimensional rendering technology has changed drastically in last 27 years. Kitchen Decl. at ¶¶ 47-62 (Ex. 5).

If this Court declines to construe "three-dimensional," the jury will be left to decide, among other things, whether quasi-3D avatars in the prior art meet the "three-dimensional avatar" claim language. This will require the parties to argue about the meaning of this term in light of the specification, which describes only quasi-3D avatars, and expert testimony as to how "three-dimensional" objects were understood more than 25 years ago. In essence, the jury will be left to construe the claims.

2) The Intrinsic Evidence Supports Microsoft's Proposed Construction

The claimed "three-dimensional avatars" are displayed on a two-dimensional display. Indeed, the fourth element [d] of claim 1 requires "displaying, on the client device display, the displayable set of other user avatars . . . ." Thus, the displayed three-dimensional avatars as claimed do not actually have depth, they just *appear* to have depth. As such, Microsoft's proposed definition of "three-dimensional" is consistent with the plain language of claim 1.

Contrary to Plaintiff's Opening Brief (Dkt. 38 at 11), the '501 patent inventors *did* find it

necessary to explain what was meant by "three-dimensional avatar." The '501 patent specification describes a three-dimensional avatar as series of two-dimensional panels that are rotated about an axis so that the avatar appears different from different angles:

- "The orientation is needed for rendering because the avatar images are three-dimensional and look different (in most cases) from different angles. . . . In a simple embodiment, each avatar image comprises M panels (where M is greater than two with eight being a suitable number) and the i-th panel is the view of the avatar at an angle of 360*i/M degrees . . . ." '501 patent at 6:13-22 (Dkt. 38-1).

- "The avatars in fixed avatar image database 71 or custom avatar images database 108 contain entries which are used to render the avatars. A typical entry in the database comprises N two-dimensional panels, where the i-th panel is the view of the avatar from an angle of 360*i/N degrees. Each entry includes a tag used to specify the avatar." *Id.* at 7:39-44 (emphasis added).

- FIG. 5 shows the avatar 2D panels rotated to various angles. *Id.* at 15:59-60.

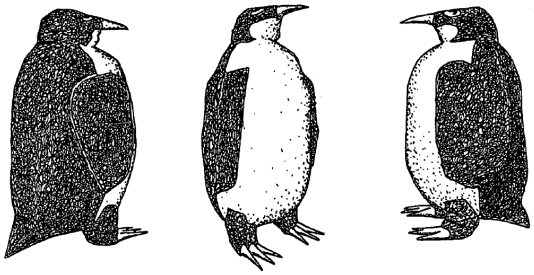


FIG. 5.

As noted by Plaintiff's expert in the IPR Proceedings, using 2D shapes to create the appearance of 3D objects is called "quasi-3-D." *Bungie Inc. v. Worlds, Inc.*, 5/17/2016 Deposition of Mark D. Pesce at 204:17-205:20 (Ex. 6). Thus, the *only* embodiment described in the '501 patent for three dimensional avatars is quasi-3D. *See also* Kitchen Decl. at ¶¶ 63-64, 66 (Ex. 5).

Further, contrary to its position now, Plaintiff agreed with Microsoft's proposed construction in arguments it made to the PTAB, which are part of the file history for the '501 patent. During the hearing in the IPR Proceedings, Plaintiff's counsel defined "three-dimensional" as creating an "appearance" of depth and three dimensions:

> JUDGE EASTHOM: Well, even if you have two [two-dimensional panels], do you have to display both of them?
>
> MR. HELGE: Well, Your Honor, you display them based on rotation, based on your position relative to that other avatar.
>
> JUDGE EASTHOM: Correct, I understand that, but that's how you get your 3-D, but if you only display one then you don't have 3-D, right?
>
> MR. HELGE: I think it depends on how the panel is portrayed, Your Honor. . . . But, I mean, if you had a very flat fish and you could see one side and you could walk around and see the other side, they may not have had an avatar to cover the front or the back. I don't know. **But I don't think that precludes the possibility of that fish or penny or something thin still from being in a 3-D *appearance* or being portrayed as 3-D, portraying some sort of depth through arrangement of the graphics**.
> . . . .
>
> JUDGE CHUNG: Do you have an interpretation of three-dimensional?
>
> MR. HELGE: Your Honor, I think the way that the patent talks about three-dimensional would be my interpretation. So, for example, when they say each avatar is a three-dimensional avatar, I would accept that to be whatever three-dimensional meant at that time.
>
> In the previous slide here, slide 21, avatar images that are three-dimensional look different in most cases from different angles. I think what they are talking about here is **you can create a three-dimensional *appearance* by having different views around the avatar**, and as you walk around you get different views. I don't believe that these usages of three-dimensional are inconsistent with probably what was being used at the time.

Bungie, Inc. v. Worlds, Inc., Record of Oral Hearing United States Patent and Trademark Office at 141-144 (P.T.A.B. Sept. 12, 2016) (Ex. 7) (emphasis added).

As such, the proper construction for the term "three-dimensional [avatar]" in the context of the intrinsic evidence, is an avatar that "appears to have length, width, and depth."

3) The Extrinsic Evidence is Also Consistent with the Intrinsic Evidence

The Court may also consider extrinsic evidence in claim construction – including dictionaries, treatises, and expert testimony. *Phillips*, 415 F.3d at 1317.

Although the specification does not expressly specify that the three dimensions are length, width, and depth, this was commonly understood by a POSITA in the 1990s. Indeed, two computer dictionaries from the 1990s explain this understanding:

- "3D graphic: any graphical image that depicts one or more objects in three dimensions–height, width, and depth. **A 3-D graphic is rendered on a two-dimensional medium; the third dimension, depth, is indicated by means of perspective** and by techniques such as shading or gradient use of color." Microsoft Press Computer Dictionary at 1 (Microsoft Press, ©1991) (Ex. 8) (emphasis added).

- "3-D: Short for three-dimensional. Of, pertaining to, or being an object or image having **or *appearing* to have all three spatial dimensions (length, width, and depth)**." Microsoft Press Computer Dictionary Third Edition at 4 (Microsoft Press, ©1997) (Ex. 9) (emphasis added).

Likewise, Microsoft Expert Garry Kitchen agrees that one of ordinary skill in the art in 1995 would have understood that the term "three-dimensional [avatar]" to mean an avatar that "appears to have length, width and depth." Kitchen Decl. at ¶¶ 35-46, 65 (Ex. 5). Such avatars could have been created using a number of rendering methods, including quasi-3D. *Id.* at 65-66.

4) Plaintiff's Attempt to Exclude Quasi-3D Avatars from the Scope of the Asserted Claims Would Exclude the *Only* Embodiment in the Specification

As detailed above, the '501 patent specification describes *only* one rendering technique for three-dimensional avatars – using a series of 2D panels to create the appearance of three dimensions – which is otherwise known as quasi-3D (or 2.5D). As such, the scope of the claimed "three-dimensional avatars" must be construed to cover quasi-3D avatars or it would exclude the only embodiment described in the specification. Such a construction is rarely, if ever, correct. *See, e.g., Braintree Lab'ys, Inc. v. Novel Lab'ys, Inc.*, 749 F.3d 1349, 1356 (Fed. Cir. 2014).

C. "CUSTOMIZING . . . AN [AVATAR]"

The term "customizing . . . an avatar" appears in the first element [a] of claim 1:

[a] *customizing*, using a processor of a client device, *an avatar* in response to

input by the first user;

Worlds proposes that this term be construed to mean "generating and storing … a custom avatar image." (Dkt. 38 at 9). The parties' dispute relates to the meaning of the term "customizing." Microsoft proposes "customizing" means: "generating an avatar that is not a predefined avatar provided to the user."

The '501 patent explains that when a client starts a virtual world session, the user can select an avatar from the fixed avatar database 71 *or* create a custom avatar:

> In operation, client 60 starts a virtual world session with user A selecting an avatar from fixed avatar image database 71 or generating a custom avatar image. In practice, custom avatar image database 108 might be combined with fixed avatar image database 71 into a modifiable avatar image database. In either case, user A selects an avatar image and a pointer to the selected image is stored in current avatar position register 114.

'501 patent at 6:59-66 (Dkt. 38-1). It further explains that the avatars in the fixed avatar database 71 (i.e., not the custom avatars) comprise "bitmaps used to render **various predefined avatars provided with the client system**." *Id.* at 7:11-13 (emphasis added). Thus a custom avatar is anything other than a predefined avatar provided by the client device.

There are many ways to customize an avatar, so it makes more sense to define a custom avatar by what it is not – it is *not* something that is already defined/created and merely provided for selection by the user on the client device. Indeed, Plaintiff does not appear to dispute that selecting a predefined avatar provided by the client device for use in the virtual space is *not* "customizing . . . an avatar." This is what the specification says and, thus, this is how this term should be construed by the Court.

V. CONCLUSION

For the foregoing reasons, Microsoft respectfully requests that the Court adopt its proposed constructions and reject those proposed by Plaintiff.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on April 30, 2021, I electronically filed the foregoing with the Clerk of Court using the CM/ECF system, which will send notification of such filing to all counsel of record.

/s/ *Kirstin Stoll-DeBell*
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